

A NEW SPECIES OF THE GENUS *Dolichognatha* O. P. Cambridge, 1869 (Araneae: Tetragnathidae) FROM INDIA

Atul Bodkhe and Shripad Manthen

J. D. Patil Sangludkar Mahavidyalaya, Daryapur, Amravati (M. S.), India.

corresponding author: atuleco@gmail.com

ABSTRACT

A new species of the Genus *Dolichognatha* O. Pickard-Cambridge, 1869 from Tetragnathidae with description of *D. lonarensis* sp.nov from Lonar Crater Sanctuary, District-Buldhana, India. Diagnosis, illustrations and description of the new species are presented.

Keywords: New record, New Species, *Dolichognatha*, Taxonomy, Lonar Crater Sanctuary, Central India

INTRODUCTION

The genus *Dolichognatha* was delineated by O. Pickard-Cambridge (1869) on the basis of *D. nietneri* as type species from a single male species collected in Sri Lanka. Until now 29 species have been described from the worldwide (World Spider Catalog, 2015). In India, only one species *D. longiceps* (Thorell, 1895) is described by Jose in 2014 from Kerala (World Spider Catalog, 2015).

Dolichognatha species can be distinguished from all other tetragnathids by the following combination of characters: PME close together, when present, and smaller than the PLE; clypeus height less than one AME diameter; chelicerae longer than the cymbial width, male chelicera longer, in some species longer than the carapace; abdomen wider than long, with tubercles; male palpal patella macroseta absent; cymbial ectobasal process present; metaine embolic apophysis present (F. Alvarez-Padilla and Gustavo Hormiga, 2011).

The current paper deals with description and illustrations of new species of *D. lonarensis* sp. nov. and discussion of the habitat of the spider from Lonar Crater Sanctuary, India.

MATERIALS AND METHODS

The present study is based on specimen collected in 2012 from the Lonar Crater Sanctuary. A total 1 specimen was collected. The basic identification of specimen was made by a Carl-Zeiss Stemi 2000-c Stereo-Zoom microscope mounted with AxioCam ERc5s camera (Germany). The specimen was preserved in 70% ethanol and currently deposited in the Spider Research Lab of J.D.P.S.M, Daryapur. All measurements are in millimeters. Leg measurements are given in the order, leg number (Femur, Patella, Tibia, Metatarsus, Tarsus, total length).

Abbreviations in the text: AME-anterior median eye, ALE-anterior lateral eye, PME-posterior lateral eye, PLE-posterior lateral eye, MOQ-median ocular quadrangle, AME-AME- distance between anterior median eye, AME-ALE-distance between anterior median eye and anterior lateral eye, ALE-PLE-distance between anterior lateral eye and posterior lateral eye, PME-PLE-distance between posterior median eye and posterior lateral eye, PME-PME-distance between posterior median eye.

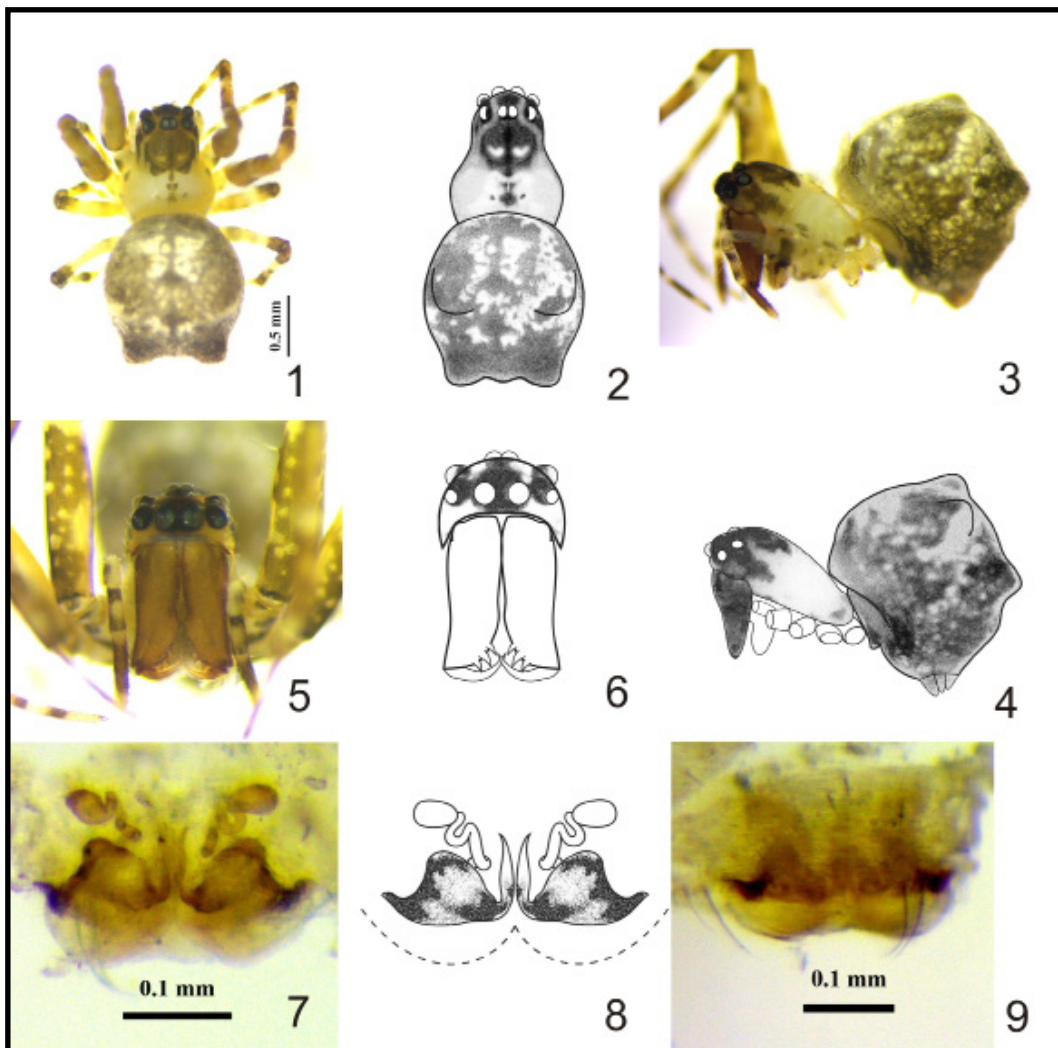


Figure 1-9, *Dolichognatha lonarensis* sp. nov. Holotype female habitus, 1-2, Dorsal view; 3-4 Lateral view, 5-6 Chelicera and eye region, frontal view, 7-8 Cleared epigyne ventral view, 9- dorsal view



Figure 10: *Dolichognatha lonarensis* sp. nov. Habitus

RESULTS AND DISCUSSION

Genus *Dolichognatha* O. Pickard -Cambridge, 1869

Dolichognatha O. Pickard-Cambridge, 1869. Type species by monotype *D. nietneri* O. P.-Cambridge, 1869: 388, pl. 12, fig. 39-45.

Dolichognatha lonarensis sp. nov. (Figures 1-9).

Type material: Holotype Female from Lonar Crater Sanctuary, Maharashtra (19° 58' 36" N, 76° 30' 30" E), India, Dec 2013, collected by S.V. Manthen (SRL JDPSM).

Distribution: Known from type of locality Lonar Crater Sanctuary, District-Buldhana, (M.S) India.

Etymology: The Specific name is a noun in apposition taken from the type locality Lonar Crater Sanctuary, India.

Diagnosis: This species resembles *D. pentagona* (Hentz, 1850) and *D. pinherial* Antonio Brescovit and Franco Cunha, 2001 but can be distinguished from these species by epigynum having slightly sclerotized, pear-shaped spermathecae, copulatory ducts closely looped, fertilization ducts, slightly long and curved (Figure 7-8).

Description: Female (Holotype) Total length 2.21; Cephalothorax 0.90 long, 0.80 wide; abdomen 1.18 long, 1.18 wide.

Cephalothorax: Carapace yellowish white with median dorsal grey band and cephalic region slightly elongated, grayish brown with two white spots in posterior area, chelicerae brownish. Labium and endites yellowish. Sternum heart shaped, as wide as long, with anterior half brown strip and posterior half yellow. Eyes in two rows, AME largest, PME Smallest, AME 0.90, ALE 0.80, PME 0.70, PLE 0.80, AME-AME 0.05, AME-ALE 0.05, PME-PME touching, PME-PL 0.11, ALE-PL 0.05, MOQ: Length 0.20, anterior width 0.27, posterior width 0.13, Chelicerae: length 0.60, strong, three promarginal teeth and one retromarginal teeth.

Abdomen: Globular, as long as wide with four equal size conical tubercles, tubercles with fine black hairs, Dorsum with white patches, ventrally anterior half yellowish brown, dorsal median grey band and posterior half with white patches near to spinnerets, epigyne covered with brown spots.

Epigyne: Slightly sclerotized, spermathecae pear-shaped, copulatory ducts closely looped, fertilization ducts slightly long, curved (Figure 7-8).

Legs: First two pairs longest, third pair is shortest. Legs yellowish brown, with darker stripes on articulation. Leg Formula -1243.

Legs measurements of the female of *Dolichognatha lonarensis* sp. nov. -

I (1.25, 0.41, 0.96, 0.93, 0.48, **4.03**); II(1.09, 0.36, 0.76, 0.76, 0.42, **3.39**); III(0.62, 0.25, 0.34, 0.39, 0.30, **1.90**); IV(0.87, 0.21, 0.52, 0.51, 0.31, **2.42**)

Natural History:

The *Dolichognatha* make orb webs, which are always horizontal or with slope less than 45° to horizontal (Levi, 1981, Helen Smith, 2008, F. Alvarez-Padilla and Gustavao Hormiga, 2011). The web building behavior of *Dolichognatha pentagona* has been described by Eberhard (1982). It builds the horizontal web with more than 30 spirals and radii, sometimes with secondary radii and a closed hub. These webs are usually found between tree buttresses and roots or near the ground (F. Alvarez-Padilla and Gustavao Hormiga, 2011). The new species *D. lonarensis* also makes similar type of web with slope less than 45° to horizontal. In present study, our specimens were found in between exposed tree roots near ground, humid, moist, damp area near water.

DISCUSSION

As said by all authors in their paper, *Dolichognatha* makes orb web, which is always horizontal or with slope less than 45 degrees to horizontal (Levi, 1981, Helen Smith, 2008, F. Alvarez-Padilla and Gustavo Hormiga, 2011), the present species *D. lonarensis* also makes horizontal web having 45 degree slope to horizontal. This confirms the habit of constructing web of this species. It is now clear that *Dolichognatha* species makes typical orb web which is one of the character of this genus. The occurrence of this species in the Lonar crater habitat indicates a suitable habitat for *Dolichognatha* species, so there are more chances of occurrence of some more specimens of this species along with males.

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